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| 10/828,893 | 04/20/2004 | Ronald J. Yaeger | P-B199-CIP | 5851 |

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Mr. Ronald J. Yaeger
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Dallas, TX 75220

11/19/2008

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| EXAMINER |
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COLE, ELIZABETH M

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| ART UNIT | PAPER NUMBER |
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1794

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11/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/828,893 | Applicant(s) YAEGER ET AL. | |
| | Examiner Elizabeth M. Cole | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-17 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-17, 19-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-2, 4-17, 19-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed does not provide support for the limitation that the continuous phase comprises amorphous polymers, that the continuous phase comprises one or more non-chlorinated cationic polymer (claim 17), or that the cationic polymers comprise at least one cationic functional group or wherein the continuous phase has an overall cationic charge. The specification does not state whether the polymers are amorphous, crystalline or semi crystalline, does not contain the negative limitation regarding non-chlorinated cationic polymers, does not refer to cationic functional groups or to the polymer being a cationic polymer. The specification does state that preferred polymers comprise cationic groups, (paragraph 061). However, this is not the same as having a cationic charged or having cationic functional groups or an overall cationic charge. .

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-17, 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polovina, U.S. Patent No. 3,798,057 as further evidenced by "Raman scattering in amorphous and crystalline materials: a study of epoxy resin and DGEBA"

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in view of Nishiguchi et al, U.S. Patent No. 6,503,629. Polovina discloses a fibrous web which is impregnated with a composition comprising a polyepoxy compound. See col. 1, lines 61- col. 2, line 3; col. 3, lines 6-26. The impregnating composition corresponds to the claimed continuous phase. The impregnated fibrous web is useful as a water contact body for evaporative coolers. The impregnating composition can further comprise fillers which correspond to the claimed discontinuous phase in an amount of up to 50 percent. See col. 3, lines 27-49. The finished product comprises 10-30 percent of the impregnating composition by weight of the finished product. See col. 4, lines 44-46. Polovina differs from the claimed invention because it does not particularly disclose the claimed non polar solubility parameter, the polar solubility parameter, the hydrogen bond solubility parameter, the surface tension, interfacial tension or that the continuous phase is cationic. However, since Polovina discloses the same materials which are used for the same purpose, it is reasonable to presume that the materials of Polovina would meet the claimed property limitations. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § § 2112- 2112.02. Polovina teaches that the impregnating compound can comprise an epoxy resin which is a diglycidyl ether of bisphenol A, but does not specifically disclose that this material is amorphous. "Raman Scattering" establishes that diglycidyl ethers of bisphenol A can be amorphous polymers. See entire document.

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Therefore, since Polovina teaches that the impregnating composition comprises a diglycidyl ether of bisphenol A as the epoxy compound which is used in the impregnating compound, and "Raman Scattering" teaches that diglycidyl ethers of bisphenol A can be amorphous polymers, it would have been obvious to have selected an amorphous diglycidyl ether of bisphenol A as the epoxy resin in Polovina, since "Raman Scattering" establishes that diglycidyl ethers of bisphenol A which are amorphous polymers were known and therefore, since Polovina teaches diglycidyl ethers of bisphenol A generally, the choice of an amorphous diglycidyl ether of bisphenol A would have been obvious at the time the invention was made.

4. Polovina teaches epoxy resin compounds such as diglycidyl ether of bisphenol A but does not teach that the resin has a cationic charge. Nishiguchi et al teaches cationic coating composition comprising a modified epoxy resin. See col. 2 lines 18-65. The epoxy resin is modified by reacting the epoxy resin with a polyol compound in order to form a cationic coating. The coating has excellent corrosion resistance and adhesion properties. Therefore, it would have been obvious to have employed a cationic epoxy resin as taught by Nishiguchi as the epoxy resin in Polovina, with the expectation that the resin would have good corrosion resistance and excellent adhesion.

5. With regard to the limitation that the material consists essentially of one or more amorphous cationic polymers, it is noted that "For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g.,

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PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 (“PPG could have defined the scope of the phrase consisting essentially of” for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention.”). MPEP 2111.03 Also, If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of,” applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). Therefore, the burden is on Applicant to show that any additional components have a material effect on the basic and novel characteristics of the invention.

6. Applicant's arguments filed 10/21/08 have been fully considered but they are not persuasive. Applicant argues that since polymers can be amorphous or crystalline that a specification which is silent as to whether the particular polymers employed are amorphous or crystalline can be relied on to provide support for an amendment to the claims limiting the polymer to an amorphous material. This argument is not persuasive. The fact that a particular material may have various different characteristics does not provide sufficient support for specifically reciting that the material has that particular characteristic. A fiber can have many lengths, but a specification which was silent as to fiber length could not then be relied on for support for a claim recitation of a particular length. The specification does not set forth the invention to convey to one skilled in the art that the particular polymer claimed was an amorphous polymer. Applicant argues that the person of skill in the art would know that polymers can be amorphous, semi-

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crystalline or crystalline. However, the issue is not whether thermoplastic polymers would be known to the person of skill in the art as being one of amorphous, semi crystalline or crystalline. The issue is whether the specification reasonably conveys to the person skilled in the art that the continuous phase consists essentially of an amorphous cationic polymer. There is nothing on the record which shows that it does. Applicant's citation regarding thermoplastic polymers in general does not establish that in particular the person of skill in the art would have recognized the polymers set forth in the specification as amorphous rather than semi crystalline or crystalline. Therefore, the rejection is maintained.

7. Applicant's arguments that the specification provides support for overall cationic charge are not persuasive. The specification provides support for positively charged groups and polymers but not for the limitation for the overall cationic charge. The citation to the IUPAC Compendium provided by Applicant states that a cationic polymer is a polymer composed of positively charged macromolecules and equivalent amount of counter anions. That does not indicate that the overall charge would be positive. The citation provided refers to a material having an overall positive charge as a polyelectrolyte. The specification does not disclose polyelectrolytes. Therefore, the rejection is maintained.

8. With regard to the 112 1st paragraph for "non-chlorinated", it is noted that this limitation has been cancelled from all claims except independent claim 17. Therefore, the rejection is maintained with regard to claim 17 and any claims dependent thereon. Applicant did not present arguments regarding this rejection.

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9. With regard to the art rejection, Applicant argues that Polovina does not disclose a thermoplastic epoxy resin. It is noted that the claims do not recite that the epoxy resin is thermoplastic but that the compound is thermoplastic. The compound of Polovina is thermoplastic.

10. Applicant argues that Polovina does not teach non-chlorinated polymers. It is noted that this limitation is no longer present in any claim except claim 17. Further, as set forth in the art rejection, Nishiguchi teaches cationic epoxy resins which are formed by reacting an epoxy resin with a polyol to form a coating having excellent corrosion resistance. Applicant does not address the Nishiguchi reference in the remarks. While it is acknowledged that Polovina does teach chlorinated polymers, as noted above, Nishiguchi teaches a coating material with excellent corrosion resistance as set forth above. Further, Applicant repeatedly stresses that the instant claims require a non chlorinated resin, but the limitation that the resin is non-chlorinated has been cancelled from all but one of the claims.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

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